

TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT
LONG-LENGTH CONTAMINATED EQUIPMENT DISPOSAL

Identification No.: RL-MW031

Date: October 2001

Program: Waste Management

OPS Office/Site: Richland Operations Office/Hanford Site

PBS No.: RL-CP02

Waste Stream: 3467 – LDR Compliant Solids from Storage to Disposal

TSD Title: 183 – MLLW-RMW Trenches

Operable Unit (if applicable): N/A

Waste Management Unit (if applicable): N/A

Facility: Low-Level Burial Grounds

Priority Rating:

This entry addresses the “Accelerated Cleanup: Paths to Closure (ACPC)” Priority:

- ☒ 1. Critical to the success of the ACPC
- ☐ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high lifecycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays)
- ☐ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Long-Length Contaminated Equipment Disposal

Need/Opportunity Category: *Technology Need* --There is no existing or currently identified technology capable of solving the site’s problem (i.e., technology gap exists, no baseline approach has been identified).

Need Description: For long-length contaminated equipment (LLCE) there is a need to accommodate LLCE space needs for offloading the waste. Depending on size and amount of waste already in the trench, in some cases it will be physically impossible to haul LLCE down into the trench and have cranes and other equipment staged for offloading. Alternatives could include a crane large enough to offload from the top of the trench. However, there is an issue of the ability of the LLCE placed in Poly containers to withstand the overburden after they are buried. It is unknown whether putting a large crane with outriggers on top of where these are buried would damage previously buried waste. Size reduction of the LLCE before packaging or repackaging is another alternative that could be explored. Efficiency in use of trench space with LLCE is another need that needs to be studied.

Schedule Requirements:

Earliest Date Required: 9/30/02

Latest Date Required: 9/30/04

Problem Description: A method to bring LLCE into the current mixed waste trenches (218W5 T31/34) that is not limited by size or weight restrictions.

Potential Life-Cycle Cost Savings of Need (in \$000s) and Cost Savings Explanation:
The need for a method, not restricted by size or weight, to bring LLCE into the mixed waste trenches is based on operational efficiency and lack of proper storage space within the Waste Management Project. Any estimate of cost savings to WMP would rely on whether WMP could choose when to accept the LLCE.

Benefit to the Project Baseline of Filling Need: Avoidance of cost and manpower needs to store LLCE while awaiting an open window when existing equipment might be used to bring the LLCE into the mixed waste trench.

Relevant PBS Milestone: None

Functional Performance Requirements: Provide a method to bring LLCE into the mixed waste trench during any phase of trench loading.

<i>Work Breakdown Structure (WBS) No.:</i>	<i>TIP No.:</i>
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1.2.2	Candidate
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Justification For Need:

Technical: Current equipment only allows LLCE to be brought into the mixed waste trench during certain loading phases due to size and weight restrictions. The LLCE may have to be stored for long periods of time before a window of opportunity arrives.

Regulatory: RCRA and DOE 435.1 storage requirements.

Environmental Safety & Health: If LLCE has to be stored; this will increase handling and lifting operations and contribute to the risk of a handling accident. Storage requirements, whether at WMP or the Generator, brings up ALARA issues for those personnel required for surveillance.

Cultural/Stakeholder Concerns: None identified.

Other: None identified.

Current Baseline Technology: Only limited amounts of LLCE are placed in the trenches during limited time periods.

End-User: Waste Management.

Contractor Facility/Project Manager: TBD

Site Technical Point-of-Contact: Dale Black, Fluor Hanford, Inc. (FH), (509) 376-8458, Fax (509) 372-1441, [Dale G Black@rl.gov](mailto:Dale_G_Black@rl.gov).

DOE End-User/Representative Point-of-Contact: Kevin Leary, DOE-RL, (509) 373-7285, Fax (509) 372-1926, [Kevin D Leary@rl.gov](mailto:Kevin_D_Leary@rl.gov).

Waste volume, m ³	Current: N/A; Forecasted (5 yrs): TBD m ³
Waste form	Long-length contaminated equipment
Waste stream I.D.	3467
Contaminants and co-contaminants	Contaminated with tank waste
Function of technology	Allow LLCE to be disposed of in trenches
Source category	Various Hanford Site programs